NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATIONS

FENCE - WOVEN WIRE

(Ft.)

CODE 382

II. **Woven Wire**

(Also refer to Fence drawings)

A. **Wire Spacing**

The base of the woven wire shall be placed near the ground surface.

Fences constructed with woven wire less than 39 inches in height shall have as least two wire strands above and in addition to the woven wire. The spacing between the woven wire and the first wire shall be a maximum of 4” to 6”. The spacing between wire strands shall be 8” or less. Do not use barbed wire as an electric wire. The top wire shall be at least 42 inches above ground level.

Fences constructed with woven wire 39 inches or higher shall have at least one strand of wire above the woven wire. The spacing between the woven wire and the wire strand shall be a maximum of 4” to 6”.

For sheep or goats the woven wire shall be at least 32 inches.

At a minimum 32" woven wire set at ground level with two strands of wire above the woven wire (one strand of wire set 4” to 6" above the woven wire with another strand set 4” to 6" above the first wire). Wire spacing may be closer if woven wire height is higher. Total height of the woven wire and wire strands should be at least 42".

B. **Type Wire**

Top and bottom strands of woven wire shall be 12½-gauge or heavier and 14½-gauge or heavier wire for intermediate strands. The wire specifications for the barbed wire shall be the same as for a barbed wire fence. High Tensile woven wire may also be used.

C. **Pull Assemblies**

Two posts with braces shall be spaced at intervals not to exceed 330 feet for woven wire in straight sections of the fence. Wire must be kept tight.

Use wooden corner pull posts that are at least 5 inches in diameter or steel posts that are at least 2 7/8” diameter.

D. **Post Spacing, Length, and Depth**

First, install posts in dips and rises. Secure posts in dips to keep them from pulling up. Standard woven wire fences shall have a maximum post spacing of 16 feet. High tensile woven wire maximum post spacing is 25 feet.

Wood posts must have a minimum length of 6 feet and set or driven to a minimum depth of 24 inches. When posts are set, thoroughly pack earthfill around posts. Wooden line posts shall have a 3-inch top commercial size.

Steel posts shall be driven minimum of 18" deep. Use standard "T" or "U" shaped steel posts that are a minimum of 5.5 ft. long.

Post spacing in areas shallow to rock may vary based on availability of post sites. Probe area with a rock probe to determine desirable post sites. Steel pipe and steel post are recommended to use in cracks between rocks. Use concrete around posts where possible. Rock bits are available in some areas for drilling rock. Use stays to maintain post spacing. Post set in a 5 gallon bucket of concrete may be used as a line post. Bury the bucket as deep as possible. Use live trees as post where needed, see section F.

E. **Line Posts**

All wooden posts (except Red Cedar, Osage Orange, or Black or Honey Locust or Catalpa or mulberry) shall be treated to meet the American Wood Preservers' Association (AWPA) U1-06, UC4A standard.

Treatment	Retention lb/ft3
Creosote coal tar	10
Pentachlorphenol	.5
Amoniacal copper arsenate	.4
Chromated copper sulfate	.4
Alkaline copper quat (ACQ)*	.4

*Do not use aluminum fasteners or metals ACQ treated wood due to corrosion. Use hot-dipped, galvanized staples or wires.

At least half the diameter of red cedar shall be heartwood. Quality of treated wood shall provide sufficient strength and last for the expected life of the fence.

Steel posts shall be rolled from high carbon steel and have a protective coating either galvanized by the hot dip process, painted with one or more coats of high-grade weather resistant steel paint, or enameled and baked. Steel posts shall be studded, embossed, or punched to aid in the attachment of the wire. Steel posts shall weigh at least1.25 pounds per linear foot. For lightning protection, steel posts should be driven every 100 feet to act as a ground, if other forms of grounding are not used.

F. **Live Trees as Line, Bracing, and Corner Posts**

Live trees used for corner, bracing, and line posts shall have a diameter breast height (DBH) equal to or greater than those prescribed for normal wooden posts.

Some alignment variation shall be allowed, but caution should be taken to minimize offsets.

Wire or insulators will not be fastened directly to trees. When using live trees, protection will be provided between the tree and wire or insulators (UC3 treated 2 x 4's, fiberglass, or rigid plastic strip).

G. **Corner, Gate, or End Assembly**

Braces and end assemblies are required at all corners, gates, and angles up to 150 degrees in the fence line. No brace assembly is required for angles between 150 and 180 degrees however, do use a 5-inch diameter post as a corner post. On all corner posts, lean the corner posts 2 inches or more away from the direction of pull.

Brace assemblies will be an H-brace, N-brace, or a floating angle brace. Posts will be 5-inch nominal wood or 2 7/8 inch nominal steel pipe (capped). Steel pipe shall be set in 30 inches of concrete. Wood posts will be sufficient length for the construction of at least a 45-inch high fence and permit driving or setting the post at least 36 inches deep. Earth backfill shall be thoroughly tamped. If concrete is used, set the posts a minimum of 30 inches deep in a hole at least 12 inches wide.

Posts of equivalent strength may be substituted, if they have suitable means of attaching wires and braces. Wood posts will be at least 2 inches higher than the top wire of the fence to prevent splitting.

Posts of other materials shall be at least 1 inch higher than the top wire of the fence.

H. **Bracing**

The brace member shall be the equivalent of a 4-inch top diameter wood post or standard weight galvanized steel pipe of 2" diameter installed at least 3 feet above ground, or between the top two wires, whichever is higher. Place brace at least 8 inches below the top of post. The brace member shall be at least 6 feet long or 2.5 times the height of the top wire (i.e., 42 inches x 2.5 = 105 inches or 8.75 feet).

The brace wire shall be number 9 gauge smooth wire or 12-1/2-gauge high tensile strength smooth wire. Twist sticks or inline strainers will be used to tighten brace wire.

I. **Staples and Wire Fasteners**

Staples shall be of 9-gauge or heavier, hot-dipped, galvanized or stainless steel with a minimum length of 1½ inches for softwoods and a minimum length of 1 inch for close-grained hardwoods. Barbed staples shall be used for pressure softwood posts. Drive staples diagonally to the wood's grain and at a slight downward angle (upward if pull is up) to avoid splitting posts and loosening of staples. Space should be left between staple and post to permit free movement of wire. Barbed staples shall be used for pressure treated posts.

Wires may be attached to steel posts by use of manufacturer's clips or by two turns of 14-gauge galvanized wire.

Do not use aluminum fasteners or metals with ACQ treated wood due to corrosion. Use hot-dipped, galvanized or stainless steel staples or wires.